

JOURNAL OF APPLIED MATERIAL SCIENCE



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Editorial 210128

Aims and scope of the journal, a brief submission guideline, and the list of the editorial board.

Ahmad Allahbakhsh

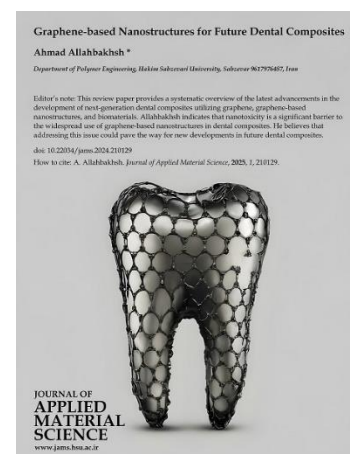
doi: 10.22034/jams.2025.210128

Graphene-Based Nanostructures for Future Dental Composites 210129

This review paper provides a systematic overview of the latest advancements in the development of next-generation dental composites utilizing graphene, graphene-based nanostructures, and biomaterials. Allahbakhsh indicates that nanotoxicity is a significant barrier to the widespread use of graphene-based nanostructures in dental composites. He believes that addressing this issue could pave the way for new developments in future dental composites.

Ahmad Allahbakhsh

doi: 10.22034/jams.2024.210129



Tunable Morphology of Polyaniline/Multi-wall Carbon Nanotube 210130 for Organic Solar Cells



The main factors that limit the power conversion efficiency of organic solar cells are exciton dissociation, charge transport, and charge recombination. Jarrahi et al. proposed enhancing the efficiency of polyaniline-based organic solar cells by controlling their morphology through the incorporation of multi-walled carbon nanotubes and adjusting the polymerization conditions.

Zeinab Jarrahi, Gholamali Farzi, Reza Charekhah, Mahsa Darabi, Alexis Fisher

doi: 10.22034/jams.2024.210130

An Overview of Silane-based Hybrid Sol-gel Coatings 210131 for Highly Efficient Metal Corrosion Protection

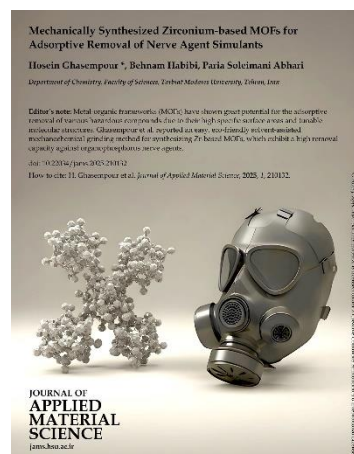
This invited mini-review presents an overview of the corrosion protection potential of hybrid silane-based coatings applied through sol-gel fabrication on different metal substances. Sheydaei and Edraki focused on the environmental impact of such coatings and the importance of corrosion inhibitors on the final performance of silane-based corrosion protection systems for different application fields.

Milad Sheydaei, Milad Edraki

doi: 10.22034/jams.2024.210131



Mechanically Synthesized Zirconium-based MOFs 210132 for Adsorptive Removal of Nerve Agent Simulants



Metal-organic frameworks (MOFs) have shown great potential for the adsorptive removal of various hazardous compounds due to their high specific surface areas and tunable molecular structures. Ghasempour et al. reported an easy, eco-friendly solvent-assisted mechanochemical grinding method for synthesizing Zr-based MOFs, which exhibit a high removal capacity against organophosphorus nerve agents.

Hosein Ghasempour, Behnam Habibi, Paria Soleimani Abhari

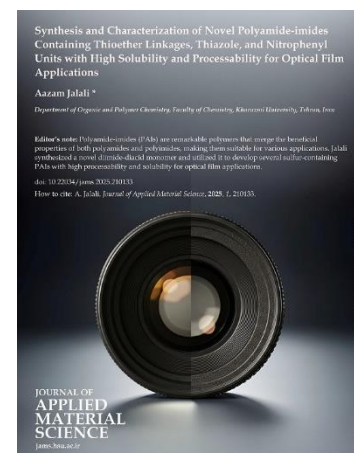
doi: 10.22034/jams.2025.210132

Synthesis and Characterization of Novel Polyamide-imides 210133 Containing Thioether Linkages, Thiazole, and Nitrophenyl Units with High Solubility and Processability for Optical Film Applications

Polyamide-imides (PAIs) are remarkable polymers that merge the beneficial properties of both polyamides and polyimides, making them suitable for various applications. Jalali synthesized a novel diimide-diacid monomer and utilized it to develop several sulfur-containing PAIs with high processability and solubility for optical film applications.

Aazam Jalali

doi: 10.22034/jams.2025.210133



From Waste Polypropylene to Carbon Dots 210134



Converting plastics into advanced nanomaterials is an effective recycling strategy that addresses the growing problem of polymer waste, making it crucial for environmental sustainability. Mahdavian et al. introduced a two-step method to convert polypropylene waste from food packaging into carbon dots, which can be utilized in bioimaging, energy conversion, and sensing applications.

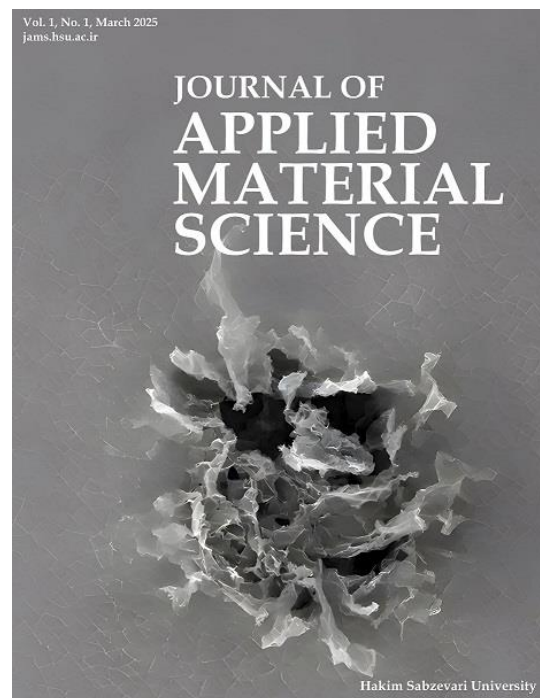
Faezeh Mahdavian, Haleh Naeim, Denis Rodrigue

doi: 10.22034/jams.2025.210134

ABOUT COVER

Graphene-based aerogels are three-dimensional, nanoporous materials characterized by high specific surface areas and customizable surface properties. Reduced graphene oxide (rGO) aerogels are a specific type of graphene-based aerogel typically created through the self-assembly of rGO nanosheets. The cover features a regenerated image based on a field emission scanning electron microscope (FESEM) image of an rGO aerogel, which was prepared using the hydrothermal reduction of graphene oxide nanosheets.

(Note: The covers of this journal are created in part using artificial intelligence (AI) technologies, with direct human supervision. AI and AI-assisted technologies are permitted only for generating graphical abstract suggestions. If such technologies are used in the manuscript preparation, it must be clearly disclosed in the Acknowledgments section.)



Journal of Applied Material Science:

a new *open-access* platform to publish scientific developments in all aspects of material science under the *highest publication qualities* and *the fastest peer-review process*

The new Journal of Applied Material Science, published by Hakim Sabzevari University, aims to cover a broad range of scientific discoveries in materials, polymers, biomaterials, nanomaterials, and advanced materials. Additionally, the journal provides a platform for researchers interested in exploring the interactions between living components and non-living materials, as well as between different classes of materials. The journal accepts scientific reports introducing innovative applications for new materials, covering device design and the use of materials in various applications. Additionally, the journal considers engineering materials and formulations related to the development of these materials.

The journal welcomes research on future materials and biomaterials, scientific reports on sustainable materials, biological materials, and living materials. It also encourages studies on drug delivery systems and all other aspects of bioengineering. Additionally, the journal accepts original research, review papers, and mini-reviews on the impact of different biomaterials on humans and the environment.

The Journal of Applied Material Science is seeking original research in the form of *communications* and *full papers*, as well as *reviews*, invited *mini-reviews*, and invited research news. Dr. Ahmad Allahbakhsh, along with an international team of editors, leads the journal to meet the highest publication standards. We are looking forward to receiving your submissions.

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